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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,148	12/12/2003	Choong Paul Kim	51667/RDS/C543	1555

23363 7590 09/08/2005

CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER	
WYSZOMIERSKI, GEORGE P	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,148	KIM ET AL.	
	Examiner	Art Unit	
	George P. Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/12/03 (Continuation Application)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/12/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2, 5-10, and 13 are rejected under 35 U.S.C. 102(a) as being anticipated by the Choi-Yim et al. *Acta mater.* article.

Choi-Yim discloses a material including an amorphous matrix reinforced with up to 20% of metal particles dispersed therein. The prior art materials are made by a method in accord with that recited in instant claims 1 and 2; see the "Experimental Methods" section of Choi-Yim. From Choi-Yim Figure 3, it is clear that the prior art materials meet the limitations of instant claims 5-8. The stress-strain curves shown in Figure 8 of Choi-Yim appear to meet the limitations of instant claim 13. Thus, all aspects of the claimed invention are held to be fully met by the disclosure of Choi-Yim et al.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi-Yim et al.

Choi-Yim et al., discussed supra, discloses that the prior art materials exhibit shear bands upon strain (see section 4.2 of Choi-Yim). While Choi-Yim does not specify that these shear bands comprise at least 4% of the material before failure, it is clear from Figure 11 of Choi-Yim that these shear bands comprise a significant portion of the material. This disclosure of Choi-Yim indicates that materials having the presently claimed properties upon strain would have been within the purview of what was disclosed by Choi-Yim et al.

5. Claims 1, 2, 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (U.S. Patent 5,735,975).

Lin discloses a material including a metallic glass matrix as set forth in instant claim 3 reinforced with particles which may be of e.g. a refractory metal or intermetallic compound. Lin does not specify the process steps, referred to in product-by-process terms in claims 1 and 2, and does not disclose the volume percent of second phase as recited in claims 9 and 10. However,

a) With regard to the process steps, it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524).

b) With regard to the volume percent, Lin is not specific to any particular volume percentage of reinforcement in the prior art materials, and materials containing the presently claimed amounts of reinforcement would fall within the purview of the Lin disclosure. Thus, a prima facie case of obviousness is established between the disclosure of Lin et al. and the presently claimed invention.

6. Claims 1, 2, 9, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Dandliker et al. *J. Mater. Res.* article.

The Dandliker article discloses materials including an amorphous matrix and a metallic second phase in proportions as set forth in instant claims 9, 10 and 12. With respect to claim 13, the stress-strain curves in Figure 6 of Dandliker appear to disclose at least some embodiments which meet the presently claimed limitations. While Dandliker does not disclose the process steps recited in product-by-process terms in the instant claims, this is not seen as defining an invention patentably distinct from Dandliker for reasons as set forth in item 5(a) supra. Thus, a prima facie case of obviousness is established between the disclosure of Dandliker and the presently claimed invention.

7. Claims 1-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 of U.S. Patent No. 6,709,536. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '536 patent includes claims to materials including

an amorphous matrix and second phase, the second phase being a ductile metal phase embedded in the matrix and formed in situ by chemical partitioning from the same molten alloy as amorphous metal alloy is formed. Various claims of the '536 patent recite the limitations defied in the instant claims with respect to composition of the second phase, shear bands, particle size and spacing, volume percentages, dendrites, and stress-strain curves. While no particular claim of the '536 patent is identical in scope to any of the instant claims, the materials defined in the two sets of claims appear to substantially overlap in composition, structure, and properties. Thus, no patentable distinction is seen between the materials defined in the '536 claims and those of the instant claims.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, supra.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective July 15, 2005, all patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW
September 2, 2005